Corrected Rebuttal to Sean P. Trende's Report
League of United Latin American Citizens, et al v. Greg Abbott, et al
Case No. 3:21-cv-00259-DCG-JES-JVB

Expert Report of Dr. Maria Cristina Morales
August 30, 2022 (Replacing August 1, 2022 Report)

1. Summary of Opinions

In Mr. Sean P. Trende's report, under the "summary of opinions," he states that "[t]he plaintiffs' alternative maps' ' represent "stitch together non-compact minority populations from disparate areas of the region" (p.7). In this rebuttal report, I will address this concern by using demographic data and urbanization (the processes whereby cities grow), to demonstrate the compactness of the population in the alternative maps Additionally, since my supplemental report, LULAC Plaintiffs have made slight revisions to one of their demonstrative districts: House District 44.[1] This report provides updated demographic information for HD44 as well as a corrected appendix for the supplemental report. *See* Appendix A.

2. My opinions are based upon a review of the LULAC Plaintiffs' demonstrative new districts based on 2016-2020 American Community Survey 5-year Estimates on:

   a. % Renter –Table: B25003: TENURE

   b. % HS Diploma –Table B15002: SEX BY EDUCATIONAL ATTAINMENT FOR THE POPULATION 25 YEARS AND OVER

   c. % LEP (Limited English Proficiency) – Table B16005: NATIVITY BY LANGUAGE SPOKEN AT HOME BY ABILITY TO SPEAK ENGLISH FOR THE POPULATION 5 YEARS AND OVER

   d. % Poverty (Below Poverty Level) – Table B17020: POVERTY STATUS IN THE PAST 12 MONTHS BY AGE

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[1] All references in this rebuttal to House District 44 are to the updated version of this demonstrative district.

    e.   % Unemployed (of those within the Labor Force) –Table B23001: SEX BY AGE BY EMPLOYMENT STATUS FOR THE POPULATION 16 YEARS AND OVER

    f.   % Per Capita Income– Table: B19301: PER CAPITA INCOME IN THE PAST 12 MONTHS (IN 2020 INFLATION-ADJUSTED DOLLARS)

3.   This report provides demographic information about the population in LULAC Plaintiffs' demonstrative districts. I make observations regarding the following socioeconomic characteristics of the people in each demonstrative district: (1) a population and race and ethnicity overview including the total population, citizen voting age population by race and ethnicity, and percentage of Limited English Proficient persons and (2) a socioeconomic profile including indicators of education, poverty, occupancy renters, and unemployment. The analysis focuses on Congressional Districts 27, 37, and 38; House Districts 44, 129, and 138; State Board of Education 6; and Senate Districts 9 and 28.

4.   Updated Demonstrative Districts from LULAC Plaintiffs

      Since my supplemental report, LULAC Plaintiffs have offered slight updates to one of their demonstrative districts: House District 44. As in my supplemental report, I am including a description of the demographics of that district.

House District 44

Population and Race and Ethnicity.The population in HD44 is 201,269 of which the Latino citizen of voting age population is 52.3 percent. The racial distribution for the remainder of the citizen voting age population is 39.10 percent Anglo, 5.8 percent Black, and 1.40 percent Asian. Most of HD44 is English proficient as 0 to 16.67 percent of the population are limited English proficient (LEP).

Socioeconomic Status. To determine socioeconomic status it is necessary to analyze a range of factors beyond income. *See* Appendix B. One such factor is educational attainment. The map on the Percent High School Diploma or Better for HD44 shows that most of the population in this HD are located in regions where 83.40 percent or more of the population have a high school diploma or higher. To a lesser extent, it also includes census places where 66.7 to 83.4 percent of the population have at least a high school diploma (i.e. parts of Seguin, Redwood, Martindale, San Marcos, Kyle, Uhland, Mustang Ridge). In and around the vicinity of the cities of Uhland and Mustang Ridge there are communities where between 50 to 66.7 percent of the population at least have a high school diploma. There are no regions where less than 50 percent of the population have a high school diploma. The percent renter or the percent of occupied housing units that are being rented is another indicator of socioeconomic status.   The overwhelming majority of individuals in HD44 reside in areas where 0 to 25 percent of the population are renting vs. owning their homes. The percent unemployment is largely below 7.5 percent for HD44, but there is an area south of Redwood where the unemployment is 7.5 to 10 percent. The percent living below poverty for HD44 is generally 5 to 15 percent. The majority of HD44 has a per capita income between $20,000 to $40,000.

5.   Demonstration of Minority Districts (Rebuttal to Section F of Mr. Trende's report).

        a.   Below is a summary table that shows the total population and Latino citizen voting age population, and highlights some of the common socio-economic characteristics of the people living within the LULAC Plaintiffs' demonstration districts.

Table 1. Latino majority and compactness in Congressional Districts.				
District	**Pop.**	**Geography**	**% Latino CVAP**	**Highlights of Demographic and Socioeconomic Characteristics**
HD44	201,269	South/Central Texas	52.30	• Unemployment generally below 7.5 percent • Per capita income mostly below $30,000 • Largely English proficient • Majority of regions have a percent of rentership that is below the Texas-wide average.
HD129	185,023	Harris County	51.20	• Nearly all regions have per capita income that is below the Texas-wide average • Mostly has percent with diploma at levels near or above Texas average • LEP mostly 33 percent or below
HD138	193,293	Harris County	51.5	• Majority have per capita income below $30,000; • Unemployment mostly below 7.5%; • Predominantly 40% or below renters; • Nearly all population below Texas average of percent diploma; • Percent LEP above Texas average.
SD9	894,960	Dallas and Tarrant Counties	50.2	• Comparable, low to low-moderate levels of unemployment; • Low- and low-moderate levels of LEP.

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SD28	903,905	South/Central Texas	51.7	• Mostly per capita income of $30,000 and below; • Unemployment mostly below 10%; • Percent renters below Texas average; • Largely 66.7% & above have diplomas; • Majority LEP 33% and below.
ED6	1,909,856	Harris County	50.3	• Nearly all below Texas average of per capita income; • Mostly percent renters below Texas average.
CD27	766,987	South/Central Texas.	50.40	• Similarities in percent diploma with high to high-moderate levels; • Most of the area has less than 5% unemployment which is comparable to the Texas average. • Largely 5 to 15 percent poverty; • Mostly per capita income of $20,000 to $40,000.
CD37	766,987	Dallas and Tarrant Counties	52.50	• Generally per capita income $40,000 or less; • Mostly percentages of high school diploma 50 percent or above; • Percent renters largely above Texas average.
CD38	766,987	Harris County	51.70	• Majority of per capita income below $30,000; • Similarities in unemployment being . below 7.5. • H.S. diploma or above generally over 50%.

b.   Next, I turn to my response to Section F of Mr. Trende's report.

1. <u>Failure to address the demonstrative districts offered by the LULAC Plaintiffs</u>

Although Mr. Trende briefly acknowledges that my prior reports "evaluate alternative maps for Dallas/Ft. Worth, Houston, and southeastern Texas," Trende Report at 115, his report fails to include any analysis regarding the demonstrative districts offered by LULAC Plaintiffs in those areas, and also fails to even acknowledge—much less analyze—the other demonstrative districts proposed by LULAC Plaintiffs (HD44, SD28, and CD27).

2. <u>Urbanization (population growth in cities that is reshaping and stretching urban spaces), metropolitanization (rural areas that are reclassified as metropolitan areas), and Dwindling Rural-Urban Divide</u>

Mr. Trende's report also makes reference to demonstrative districts—offered by other plaintiff groups—that extend from urban centers to suburbs to rural areas, yet he does not make any assessments as to why this questions the legitimacy of the alternative maps. Here, I argue that processes of urbanization, metropolitanization—in addition to stagnant or low population growth in rural areas—blurred spatial and social boundaries that had typically separated urban from rural areas (for specific discussion on DFW and Houston see #3 and 4).

The joining of urban and rural areas in the demonstrative districts is necessary to meet population requirements for Senate and Congressional District maps. While Texas experienced a 14 percent population increase from 2010 to 2020 (*i.e.*, 25,145,561 to 29,145,505), most of the growth in Texas is concentrated in urban areas and is driven by natural increase and migration.[2] The growth in urban areas in turn is transforming the state's largest metropolitan areas into urban growth hubs, while many rural areas are experiencing flat or negative population growth.

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[2] White, S., Potter, L., You, H., Valencia, L., Jordan, J., Pecotte, B., & Robinson, S. (2017). Components of Population Change in Urban Texas. *Population*, *1*, 2015-2016.

The low and stagnant numerical population in rural Texas means that it is reasonable to combine rural with urban areas to achieve representation in the Senate and Congressional Districts. Of course, this is not unique to Texas, as across the nation urbanization and expansion of metropolitan areas are merging urban and rural areas both spatially and socially.[3] Nationally, small towns and thinly settled areas at the metropolitan fringe are becoming increasingly integrated within metropolitan areas, eroding the urban-rural divide.

Hays County, for instance, is in the rural-urban fringe that is undergoing suburbanization due to its proximity to Austin and San Antonio and it being the home to Texas State University. Further, processes of metropolitanization— that is, the process where rural areas are reclassified as metropolitan areas—incorporated Redwood and Martindale into the Austin Metropolitan Area. Both Redwood and Martindale have small populations, 4003 and 1,253, respectively, according to the 2020 Census. They are both examples of how urban areas are absorbing rural communities as they are both part of the Austin Metropolitan Metropolitan Area. Similarly, Guadalupe County has been absorbed into the San Antonio Metropolitan Area.

Moreover, the rural-to-urban migration of young people for higher education and employment opportunities has been firmly established and widely researched for decades.[4] Answering the concerns of rural communities in Texas to retain their population, the Rural Youth Community Survey (RYCS) was administered to 305 11th grade students in rural high schools across Texas. Students who are planning on migrating to urban areas after their high school graduation said that community attachment is an incentive to return to their home

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[3] Lichter, D. T., Brown, D. L., & Parisi, D. (2021). The rural–urban interface: Rural and small town growth at the metropolitan fringe. *Population, Space and Place*, *27*(3), e2415.

[4] Theodori, A. E., & Theodori, G. L. (2015). The influences of community attachment, sense of community, and educational aspirations upon the migration intentions of rural youth in Texas. *Community Development*, *46*(4), 380-391.

communities.[5] Consequently, mobility patterns in Texas can strengthen social ties between

rural and urban areas and also blur cultural differences as young adults become the cultural

brokers between rural and urban areas.

Next, I address Mr. Trende's critique of LULAC Plaintiffs' demonstrative districts in

Dallas/Ft. Worth, Houston, and southeastern Texas.

3. Dallas and Tarrant Counties

As shown in my prior reports, data from the American Community Survey demonstrates

that Latino citizens of voting age are sufficiently numerous and compact to constitute a majority

in districts in the alternative maps. Nevertheless, in Section F of his report ("Demonstrating

Minority Districts"), Mr. Trende includes just one sentence about Latinos in Dallas County, and

does not claim that Latinos in Dallas County are non-compact. (p. 117-118)   Mr. Trende's

analysis of the Latino population in Tarrant County is similarly cursory: he has just one

sentence, that claims Latinos are not compact in Tarrant County, although Mr. Trende's own

Fig. 89 clearly provides a visualization of Latino compactness. (p. 123)

Moreover, there are population characteristics that bind together Latino residents in

Dallas and Tarrant Counties. For example, a socio-economic characteristic that unifies SD9 is

unemployment. In the area in-between Dallas and Ft. Worth unemployment is mostly low (0 to

5%) which is comparable to the low and low-moderate levels of unemployment in the urban

centers (i.e. Dallas and Ft. Worth). There are also similarities in the percentage of limited

English proficiency (LEP). The area connecting the urban centers has low percentages of LEP

(0-16.67%), and the urban centers have low-moderate levels (16.67- 33% and 33-50%).

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[5] Theodori, A. E., & Theodori, G. L. (2015). The influences of community attachment, sense of community, and educational aspirations upon the migration intentions of rural youth in Texas. *Community Development*, *46*(4), 380-391.

CD37 also has several common characteristics. Generally, the per capita income is $40,000 or less, including in both the rural and urban portions of the district. Most of CD37 has percentages of high school diploma of 50 percent or above. Additionally, in this district, the percent of renters are mostly above the Texas average of 37.7 percent. Although less populous areas (rural to semi-rural) tend to be more affluent than the urban areas in CD37, the most populous areas in CD37 share more socio-economic characteristics in common. For instance, poverty levels—generally above 20%—are mostly above the Texas average (13.4%). Also, the urban areas have LEP percentages, 16.67 to 50 percent, that are above the Texas average of 13.3 percent.

4. Houston

The demonstrative districts offered by LULAC Plaintiffs reflect the urbanization and metropolitanization that has made Houston into an urban growth hub (see Section 1).

Indeed, there are common economic and social characteristics that unite HD129, which is entirely located in Harris County. To begin with, nearly all the population in HD129 has per capita income that is $30,000 and below—which is under the Texas average of $32,177. In terms of educational attainment, most of the areas in HD129 have percentages of high school diploma or higher that are at (83.4% and above) or approaching (66.7-83.4%) the statewide average of 84.4 percent. Further, in HD129, the percentage of limited English proficient (LEP) is generally 33 percent or below.

HD138 is also entirely located within Harris County, and the area within the demonstrative district shares social and economic characteristics. For example, the majority of HD138 has per capita income below $30,000, which is below the statewide average of $32,177.

Nearly all of HD138 has unemployment below 7.5 percent. Further, HD138 has predominantly

33.4 or below percent of renters.

There are also commonalities in HD138 with respect to educational attainment. For

instance, all regions in HD138 have percentages of high school diploma (or above) that are

below the Texas statewide average of 84.4 percent. In regard to LEP, the majority of HD138

has percentages of LEP that are above the statewide average of 13.3 percent.

The areas in ED6 also share common socioeconomic characteristics. Nearly all the

region has per capita income that is below the state average of $32,177. As another example,

the percent renters in ED6 is below or slightly above the Texas average of 37.7 (0 to 25% and

25 to 40%).   Finally, the areas in CD38 also share

common socioeconomic characteristics. For example, the majority of CD38 has per capita

income less than $30,000, which is below the Texas-wide average of $32,177. Additionally,

most of CD38 has unemployment below 7.5 percent. As another example, a significant portion

of CD38 has percentages in high school diploma or above that are 50 percent and above.

5. South/Central Texas

Economic and social indicators link the areas in HD44. For example, the majority of

HD44 has per capita income between $20,000-$40,000, which hovers around the Texas state

average ($32,177). The percent renters in HD44 are below the Texas state average of 37.7

percent, with ranges between 0 to 25 percent. Also, the unemployment in HD44 is generally

below 7.5 percent. Further, most of HD44 is only 0 to 16.67 percent LEP.

SD28 is largely connected by five economic and social indicators. Nearly the entire

SD28 district has per capita income of $30,000 and below which is less than the Texas average

of $32,177. Almost all of SD28 has unemployment below 10 percent. Most of SD28 has

percent renters that are below the state average of 37.7 percent. In particular, areas have 16.6 to 33.4 percent renters followed by 16.6 percent and below. An important socio-economic indicator is educational attainment. The majority of SD28 has 66.7 percent and above of high school diploma and beyond. Lastly, nearly the entire SD28 has a percentage of LEP that are 33 percent and below.

Congressional District 27 is connected through six socio-economic factors. CD27 shares educational characteristics with nearly all the areas in CD having 66.7 percent or higher percentage of high school diploma or better. These levels include areas approaching (66.70 to 83.4%) and extending (83.4 and above) above the Texas average. The percentage of renters is mostly above the statewide average of 37.7. Most of the population has less than 5 percent unemployment, which is less than or comparable to the Texas average of 5.3. The majority of CD27 is 5 to 15 percent below poverty and the per capita income for CD27 is mostly between $20,000 to $40,000. Culturally, CD27 is largely proficient in English, with almost all areas being 0 to 16.67 percent limited English Proficient.

I state under penalty of perjury that the foregoing is true and correct.

Executed on: August 30, 2022

Maria Cristina Morales, Ph.D.

Appendix A

The population and CVAP data in this report has been updated and verified. Below are the data corrections to my supplemental report:

HD129

The total population for HD 129 is 185,023 and the percentage of Latino citizens of voting age is 51.20 percent. The remaining citizens of the voting age are 24.10 percent Anglo, 13.50 percent Black, and 9.60 percent Asian.

HD 138

The total population for HD138 is 193,293 and the percentage of Latino citizens of voting age is 51.5 percent. The race and ethnic breakdown for the remaining citizen voting age population is 17.2 percent Anglo, 19.1 percent Black, and 11.4 percent Asian.

SD 9

Senate District 9 has a total population of 894,960 and Latinos represent 50.2 percent of the citizen voting age population. The race and ethnic distribution for the citizen voting age of the remaining groups are: 25.5 percent Anglo, 20.5 percent Black, and 2.3 percent Asian.

SD28

The total population of Senate District 28 is 903,905 and the Latino citizen voting age population is 51.7%. The race and ethnicity of the remaining citizen voting age population are 34.4 percent Anglo, 10.6 percent Black and 1.4 percent Asian.

State Board of Education District (ED) 6

State Board of Education District 6 has a total population of 1,909,856 and a Latino citizen voting age population of 50.3%. The citizen voting age population of other groups are: 21.4 percent Black, 19.8 percent Anglo, and 7.0 percent Asian.

CD27

The total population for Congressional District 27 is 766,987. and the Latino citizen voting age population is 50.4 percent. The race and ethnic distribution across the citizen age population for the remaining groups are 36.0 percent Anglo, 9.10 percent Black, and 2.9 percent Asian.

CD37

The total population of Congressional District 37 is 766,987 and the Latino citizen voting age population is 52.50 percent. The race and ethnic distribution for the citizen voting age of the remaining groups are: 27.4 percent Anglo, 16.3 percent Black, and 2.3 percent Asian.

CD38

The total population of Congressional District 38 is 766,987 and the Latino citizen voting age population is 51.7 percent. The race and ethnic distribution for the citizen voting age of the remaining groups are: 20.6 percent Anglo, 20.7 percent Black, and 5.6 percent Asian.

Appendix B: SES Characteristics for Updated Texas House District 44